

A STUDY OF THE NORTH AMERICAN MOTHS
FORMERLY REFERRED TO DELTA SAALMÜLLER,
WITH TWO NEW SPECIES (LEPIDOPTERA:
PHALAEENIDAE)

By J. F. GATES CLARKE

Bureau of Entomology and Plant Quarantine,
United States Department of Agriculture

Since Hampson's work appeared in 1909¹ the name *Delta*, proposed by Saalmüller² for a phalaenid from Madagascar, has been applied to certain moths from north and Central America. Because there are marked differences between the American moths and Saalmüller's generic description, and since there appears to be no available name for the group, I propose the following new generic name for our American species.

NEDRA, new genus.

Genotype: *Cloantha ramosula* Guenée (Hist. Nat. Ins., vol. 6, p. 114, pl. 9, fig. 1, 1852).

Delta Hampson, in part (*nec* Saalmüller), Catalogue of the Noctuidae in the collection of the British Museum, vol. 8, p. 190, 1909.—Barnes and McDunnough, Check List of the Lepidoptera of Boreal America, p. 66, 1917.—Gaede, in Seitz, Die Gross-Schmetterlinge der Erde, vol. 7, p. 247, 1926.—McDunnough, Check List of the Lepidoptera of Canada and the United States (Part 1, Macro-lepidoptera), p. 98, 1938.

Cloantha Guenée, in part, Hist. Nat. Ins., vol. 6, p. 114, 1852.—Grote, in part, Bull. Buff. Soc. Nat. Hist., vol. 1, p. 83, 1873.

Actinotia Grote (*nec* Hübner), Can. Ent., vol. 7, p. 28, 1875; id., Revised Check List of the North American Noctuidae (Part 1), p. 18, 1890.—Smith, List of the Lepidoptera of Boreal America, p. 45, 1891; id., U. S. Nat. Mus. Bull. 44, p. 167, 1893.—Grote, Abhandl. naturw. Ver. Bremen, vol. 14 (1), p. 42, 1895.—Dyar, U. S. Nat. Mus. Bull. 52, p. 122, 1903.—Smith, Check List of the Lepidoptera of Boreal America, p. 27, 1903.—Holland, The Moth Book, p. 172, 1903.

¹ Hampson, G. F., Catalogue of the Noctuidae in the collection of the British Museum, vol. 8, p. 190-199, 1909.

² Saalmüller, M., Lepidopteren von Madagaskar, p. 263, 1891. (Genotype: *D. stolifera* Saalmüller [monobasic]).

Antenna ciliate. Labial palpus ascending, reaching to about middle of frons; first and second segments roughened with long scales in front; third segment small, conical, porrect. Frons convex, smooth, with a horizontal ridge of scales above; vertex with raised, horizontal ridge of scales. Eyes moderately large, round. Thorax with posterior divided crest; tegula long, smooth, extending to posterior edge of thorax.

Fore wing rather narrow, costa straight; termen slightly oblique, gently rounded from vein 3 to inner margin, weakly crenulate; cell about three-fifths length of wing, vein 2 from outer fifth of cell; veins 3, 4, and 5 from near angle of cell, approximate; 6 from apical corner of cell, connate with the stalk of 7, 8, and 9; 8 to apex, 9 to costa; 10 from near angle of cell forming small areole with stalk of 7, 8, and 9; 11 from outer third of cell. Hind wing rather broad, costa gently convex, apex rounded, termen crenulate; cell about one-half length of wing; 2 from slightly beyond outer third; 3 and 4 connate; 6 and 7 connate from apical angle of cell. Legs with strongly tufted tibiae. Hind tibia with spurs at posterior two-third and apex. Abdomen with dorsal series of crests on segments 1 to 3 inclusive.

MALE GENITALIA—Symmetrical. Harpe broadest at middle; corona absent; clasper and ampulla present; clavus clothed with fine, short setae. Anellus with U-shaped ventral plate. Uncus simple. Vinculum moderately pointed. Vesica armed.

FEMALE GENITALIA—Genital plate flat, broad, strongly sclerotized; ostium narrow, longitudinal. Ductus bursae always partly sclerotized. Ductus seminalis entering ductus bursae dorsally. Bursa copulatrix asymmetrical, with ductus bursae entering on right side, posteriorly; signa always present, multiple. Osipositor lobe small, weak, with elongate, sclerotized area dorsally. Collar of 8th segment broad, with median, sclerotized ventro-anterior area.

REMARKS—This genus differs from *Delta* by the narrower fore wing and its longer cell, the origin of veins 2 and 11 farther out on cell, and the presence of dorsal crests on the thorax and abdomen.

The similarity of pattern between the American species and that of *stolifera* is strong but the details of the reniform immediately distinguish the former from the latter. Hampson's association of the American and Old World forms appears to be based entirely on similarity of pattern since, in the description of *Delta*, Saalmüller distinctly states that the abdomen is smooth, whereas the American species assigned to the genus by Hampson have the "Abdomen with dorsal series of crests," the character by which Hampson distinguished *Delta* in his key.

If the specimen of *Delta goniosema* Hampson in the U. S. National Museum is correctly identified, it is referable to *Nedra*.

KEY TO THE SPECIES OF *NEDRA* BASED ON COLORATION
AND PATTERN

1. Orbicular round, black-edged, distantly removed from reniform *stewarti* (Grote), p. —
- Orbicular elongate or oval, remote from, adjacent to, or fused with reniform 2
2. Orbicular remote from reniform, black-edged. *dora*, new species, p. —
- Orbicular adjacent to or fused with reniform 3
3. Reniform usually open, always fused with apical white or grayish shading; hind wing light fuscous, paler basally *ramosula* (Guenée), p. —
- Reniform closed, strongly contrasted with dark ground color, no conspicuous light shading at apex of wing; hind wing dark fuscous *hoeffleri*, new species, p. —

KEY TO THE SPECIES OF *NEDRA* BASED ON GENITALIA

MALES

1. Anal spine of cucullus strong; ventral margin of harpe deeply excavated before cucullus (Fig. 3) ... *ramosula* (Guenée), p. —
- Anal spine of cucullus absent; ventral margin of harpe not deeply excavated before cucullus 2
2. Vesica armed with two stout thornlike cornuti (Fig. 1a) *hoeffleri*, new species, p. —
- Vesica armed with three stout, thornlike cornuti (Figs. 2a, 7a) ... 3
3. Aedeagus with sharp terminal tooth and conspicuous dorsal raised area (Fig. 2a) *dora*, new species, p. —
- Aedeagus without sharp terminal tooth or dorsal raised area (Fig. 7a) *stewarti* (Grote), p. —

FEMALES

1. Ostium narrow and deeply V-shaped, edges sharply folded; bursa copulatrix with three long, strong signa (Fig. 8) *ramosula* (Guenée), p. —
- Ostium and bursa copulatrix otherwise 2
2. Ostium narrow, edges weakly crenulate; bursa copulatrix with three elongate, weak signa (Fig. 10). *hoeffleri*, new species, p. —
- Ostium narrow, edges smooth or crenulate; bursa copulatrix with four signa (Figs. 6, 9) 3
3. Ostium narrow, edges parallel, smooth; bursa copulatrix with two short and two long, moderately strong signa (Fig. 6) *stewarti* (Grote), p. —
- Ostium narrowly V-shaped, edges slightly crenulate; bursa copulatrix with three large and one small signa (Fig. 9) *dora*, new species, p. —

NEDRA RAMOSULA (Guenée)

Plate 3, figures 3-3a; Plate 4, figures 4, 5; Plate 5, figure 8.

Cloantha ramosula Guenée, Hist. Nat. Ins., vol. 6, p. 114, pl. 9, fig. 1, 1852.—Grote, Bull. Buff. Soc. Nat. Hist., vol. 1, p. 83, 1873.

Auchmis ramosula (Guenée) Walker, List of the specimens of Lepidopterous insects in the collection of the British Museum, vol. 11, p. 616, 1857.

Actinotia ramosula (Guenée) Grote, Can. Ent., vol. 7, p. 28, 1875; id., Revised Check List of the North American Noctuidae (Part 1), p. 18, 1890.—Smith, List of the Lepidoptera of Boreal America, No. 2184, 1891; id., U. S. Nat. Mus. Bull. 44, p. 167, 1893.—Grote, Abhandl. Naturw. Ver. Bremen, vol. 14 (1), p. 42, 1895.—Dyar, U. S. Nat. Mus. Bull. 52, No. 1291, 1903.—Smith, Check List of the Lepidoptera of Boreal America, No. 1438, 1903.—Holland, The Moth Book, p. 173, pl. 20, Fig. 29, 1903.

Delta ramosula (Guenée) Hampson, Catalogue of the Noctuidae in the collection of the British Museum, vol. 8, p. 193, pl. 127, fig. 23, 1909.—Barnes and McDunnough, Check List of the Lepidoptera of Boreal America, No. 2515, 1917.—Gaede, in Seitz, Die Gross-Schmetterlinge der Erde, vol. 7, p. 247, 1926.—Johnson, in Procter, The Biological Survey of the Mount Desert Region (Part 1, The Insect Fauna), p. 75, 1927.—Forbes, in Leonard, Cornell University Agr. Exp. Sta., Memoir 101, p. 641, 1928.—Brimley, Insects of North Carolina, p. 275, 1938.—Procter, Biological Survey of the Mount Desert Region (Part VI, The Insect Fauna), p. 212, 1938.—McDunnough, Check List of the Lepidoptera of Canada and the United States (Part 1, Macrolepidoptera), No. 2589, 1938.

MALE GENITALIA—Ventral margin of harpe deeply excavated before cucullus; cucullus moderately narrow, rounded; anal spine strong; clavus narrow, flattened, angulate distally; ampulla stout, flattened, extending slightly beyond costa; clasper stout, flattened distally. Anellus pointed anteriorly; lateral arm of ventral plate smooth except for a few minute spines at posterior tip; dorsal arm strongly sclerotized, narrow, furcate at base. Aedeagus long, stout, dilated distally, with a strongly sclerotized plate and a strong toothed projection disto-ventrally; opposite this, and slightly posterior to it, there is a small scobinate patch. Vesica with two broad, thornlike cornuti and an elongate, strongly sclerotized plate. Uncus moderately long, weak, bluntly pointed. Tegumen triangular.

FEMALE GENITALIA—Ostium deeply V-shaped, edges sharply folded. Bursa copulatrix with three long, strong signa.

Alar expanse, 28-38 mm.

TYPE—In the United States National Museum.

TYPE LOCALITY—"North America."

FOOD PLANT—*Hypericum*.

DISTRIBUTION—Eastern United States and Canada.

ARKANSAS: Hope, 7 ♂ ♂ (June to August dates; no collector).

CONNECTICUT: East River, ♂ ("September 1"), ♀ (August 19"), 2 ♀ ♀ (25-31-VIII-1908, Charles R. Ely).

DISTRICT OF COLUMBIA: Washington, ♀ (27-V-1882, Koebele).

FLORIDA: Gainesville, ♀ (15-III-1925, D. M. Bates).

ILLINOIS: Decatur, ♀ (16-23-VIII, no collector); Oconee, ♂ (June 24-30, no collector).

KENTUCKY: Louisville, ♀ ("VI-26", B. Nettelroth).

LOUISIANA: Lake Charles, 2 ♂ ♂ (16-XII-1922; 21-I-1933, Karl R. Coolidge).

MAINE: Sebec Lake, 5 ♂ ♂, 3 ♀ ♀ (June 16-30, no collector).

MARYLAND: Plummer Island, 2 ♂ ♂ (3-V-1904, R. P. Currie; 23-IX-1921, no collector).

MASSACHUSETTS: Attleboro, ♀ (11-VII-1936, R. H. Andrews and Lloyd M. Martin); Forest Hills, ♂, ♀ (10-V-1912, William Reiff); Newton Highlands, 6 ♂ ♂ (no date or collector).

MISSISSIPPI: Agricultural College, ♀ (October 1895, H. E. Weed); Greenville, ♂ (no date, George Dorner).

MISSOURI: St. Louis, ♂ (11-IX-1904, H. McElhose).

NEW JERSEY: Lakehurst, ♂, ♀ ("IV-26"; Sept. 21, 1930, Frederick Lemmer); Patterson, ♀ ("IV-16", no collector).

NEW YORK: Bear Mountain, ♀ (no date, H. J. Erb); Franklin County, ♀ (no date, C. S. McKnight); Greene County, 2,500 ft., ♂ (June, L. O. Howard); Lewis County, ♀ (September 5, 1878, W. W. Hill); 2 ♂ ♂ ("5-8-01" and "8-23-05", without exact locality or collector); Long Island, 2 ♂ ♂ (one, Richmond Hill, "VII-26", no collector; the other without date or collector).

NORTH CAROLINA: Goldston, ♀ (April, no collector); Southern Pines, 2 ♀ ♀ (April 8-15; October 16-23, no collector).

PENNSYLVANIA: New Brighton, 11 ♂ ♂, 4 ♀ ♀ (May to September dates, 1902 to 1910, H. D. Merrick); Oak Station, Allegheny County, ♀ (September 18, 1908, Fred Marloff); Pittsburgh, ♀ ("May 7", no collector); Wayne County, ♂, ♀ (no date or collector); White Mills, ♂ (July 2, 1906, no collector).

RHODE ISLAND: Elmwood, ♂ (May 3, 1913, no collector).

TENNESSEE: Clarksville, ♂ (9-23-30, S. E. Crumb); Knoxville, ♂ (18-V-1928, no collector).

NEW BRUNSWICK: Chamcook, ♀ (30-VII-1938, T. N. Freeman).

NOVA SCOTIA: White Point Beach, Queens County, ♂ (18-VIII-1934, J. McDunnough).

ONTARIO: Algonquin Peak, ♀ (19-VI-1922, J. McDunnough); Eastman Springs, Ottawa, ♂ (19-VI-1907, C. H. Young); Point Colborne, ♂ (20-VII-1932, J. J. de Gryse); Queenston, 2 ♂ ♂, ♀ (30-VIII-1933, D. F. Patterson).

REMARKS—This is the commonest species of the genus but is restricted to eastern United States and Canada. In addition to the specimens listed under distribution, I have a single male from the White Mountains, Arizona, which presumably is this species.

I am indebted to Dr. J. McDunnough for the food plant record. In the material he kindly lent me there were two reared specimens, the female and male from New Brunswick and Nova Scotia, respectively.

NEDRA STEWARTI (Grote)

Plate 4, figures 6, 7-7a.

Actinotia stewarti Grote, Can. Ent., vol. 7, p. 128, 1875; id., Revised Check List of the North American Noctuidae (Part 1), p. 18, 1890.—Smith, List of the Lepidoptera of Boreal America, No. 2185, 1891; id., U. S. Nat. Mus. Bull. 44, p. 167, 1893.—Grote, Abhandl. naturw. Ver. Bremen, vol. 14 (1), p. 42, 1895.—Dyar, U. S. Nat. Mus. Bull. 52, No. 1292, 1903.—Smith, Check List of the Lepidoptera of Boreal America, No. 1439, 1903.

Delta stewarti (sic!) Hampson, Catalogue of the Noctuidae in the collection of the British Museum, vol. 8, p. 193, pl. 127, fig. 24, 1909.

Delta stewarti (Grote) Barnes and McDunnough, Check List of the Lepidoptera of Boreal America, No. 2516, 1917.—Seitz, Die Gross-Schmetterlinge der Erde, vol. 7, p. 247, pl. 36a, 1926.—McDunnough, Check List of the Lepidoptera of Canada and the United States (Part 1, Macrolepidoptera), No. 2590, 1938.

MALE GENITALIA—Harpe tapering to the narrowly rounded cucullus; ventral margin not excavated before cucullus; anal spine absent; clavus narrow, slightly convex, fusing gradually with surface of harpe; ampulla very stout, straight, bluntly pointed; clasper very short, stout, compressed distally. Anellus broadly pointed anteriorly, lateral arm finely scobinate; dorsal arm moderately broad, convex. Aedeagus moderately long, with a small, disto-ventral, scobinate process; slightly posterior and dorsal to this is an elongate scobinate patch. Vesica with three stout, thornlike cornuti. Uncus short, weak. Tegumen convex laterally.

FEMALE GENITALIA—Ostium narrow, edges parallel. Bursa copulatrix with two short and two long, moderately strong signa.

Alar expanse, 28-33 mm.

TYPE—In the British Museum.

TYPE LOCALITY—California.

FOOD PLANT—*Hypericum perforatum* L. (This record supplied by Mr. S. E. Crumb.)

DISTRIBUTION—Western United States.

CALIFORNIA: Eldridge, ♀ ("V-24," Jacob Doll); Inyo County, ♂ (August 15-30, O. C. Poling); ♂ (labeled "California" but no other data).

OREGON: Cottage Grove, ♂ (27-VII-1937, E. P. Chase); Corvallis, 2 ♂ ♂, ♀ (May 1, 1900, no collector; April 15-21, 1926, Ella Thompson; April 23, 1921, no collector); Salem, ♂, 2 ♀ ♀ (August 1, 1906, no collector).

WASHINGTON: Parkland, ♂ (May 20, 1934, S. E. Crumb No. 219); Spanway, 2 ♂ ♂, 3 ♀ ♀ (June 26 to July 9, 1934, S. E. Crumb, Nos. 215-18, 221); ♀ (Labeled "Washington Terr.," E. L. Graef).

REMARKS — The female from Cotton Grove, Oregon has an unusually large, white reniform with only a small amount of dark scaling centrally. Otherwise it agrees with reared females from Washington State.

This species will probably be found in southern British Columbia also.

NEDRA DORA, new species.
Plate 3, figures 2-2a; Plate 5, figure 9.

In general appearance this species is much like *stewarti* but the brown of *stewarti* is entirely replaced by purplish fuscous and the lighter areas have a decided lavender-gray tint.

Antenna purplish fuscous annulated with gray basally. Labial palpus grayish fuscous, the scales tipped with gray, and irrorated with black. Head and thorax purplish fuscous irrorated with gray. Fore wing purplish fuscous; t.a. and t.p. lines indicated on inner margins by zigzag fuscous scaling; basal dash black, edged costad with creamy white, the latter color blending with pale gray which in turn becomes attenuated and is lost in the dark steel-gray of the costa; toward the inner margin the basal dash is bordered by purplish brown; from inner edge of cell to inner margin the wing is overlaid with pale gray, more strongly so toward tornus; orbicular rather large, elongate, edged with black; center of steel-gray scales tipped with paler gray; reniform large, closed, white, edged with black and with pale brown scaling in the center; reniform followed by a longitudinal pale brown shade, the latter bordered toward apex by pale gray; between the longitudinal, pale-brown shade and tornus the reniform is bordered by a broad purplish-fuscous shade, except for a pale-gray shade before termen between veins 2 and 5; before termen five sagittate, blackish-fuscous dashes between the veins (2 to 7), the longest dash between veins 5 and 6; cilia fuscous; with a purplish tint, except at the ends of the veins, where they are buff. Hind wing dark fuscous; cilia buff with a narrow fuscous subbasal band. Underside of wings dusted with reddish purple and with a conspicuous fuscous band at outer third. Legs purplish fuscous irrorated with gray and shaded with buff. Abdomen fuscous above, irrorated with purplish fuscous; beneath pale reddish buff.

MALE GENITALIA—Harpe broadest about middle, abruptly narrowed to the small, rounded cucullus; anal spine absent; clavus moderately broad, convex, rounded distally; ampulla broad (two-thirds the length), compressed, obliquely truncate, and extending slightly beyond costa; clasper short, stout, truncate. Anellus broad, pointed anteriorly; lateral arm broad, strongly toothed; dorsal arm broda, convex, strongly sclerotized. Aedeagus moderately long, stout, slightly curvey; distally, inside tip, a strong tooth with a group of minute ones basally; a prominent, flattened, raised area studded with small teeth distodorsally; vesica with three strong, thornlike cornuti. Uncus moderately long, pointed. Tegumen convex laterally.

FEMALE GENITALIA—Genital plate long; ostium narrowly V-shaped, edges weakly crenulate. Bursa copulatrix with three large and one small signa.

Alar expanse, 31-34 mm.

TYPE—In the Los Angeles County Museum, Los Angeles, California.

TYPE LOCALITY—Grizzly Flats, Eldorado County, California. (August 10, 1938, E. P. Chase.)

FOOD PLANT—Unknown.

REMARKS—Described from the type female and three male and one female paratypes, all with the same data. Two male paratypes in the Los Angeles Museum, one paratype of each sex in the U. S. National Museum (No. 53951).

This species is closely related to *stewarti*, which it closely resembles, but differs from *stewarti* by the absence of the dominant brown color and by the buff cilia of the hind wing. In the male genitalia the chief differences lie in the aedeagus; the sharp terminal tooth and dorsal raised area are absent in *stewarti*. In the female the edges of the ostium converge to form a narrow "V" in *dora*, but in *stewarti* they are parallel. The genital plate of *dora* is much longer than that of *stewarti*.

I am indebted to Dr. J. A. Comstock for the entire series of this species.

NEDRA HOEFFLERI, new species.

Plate 3, figures 1-1a; Plate 5, figure 10.

Labial palpus fuscous, irrorated with black and pale ochreous. Antenna dark fuscous; scape and a few basal segments ochreous white above. Head fuscous, with a few pale ochreous scales mixed; area between the bases of the antennae gray; vertex blackish fuscous. Thorax fuscous; collar pale gray anteriorly and posteriorly, with white-tipped, dark-fuscous scales between the two gray bands. Fore wing fuscous; basal dash black, broadly edged costad with whitish ochreous which fades to white, becomes attenuated, and disappears in the dark ground color before reaching costa; toward the inner margin the basal dash is broadly edged with red-brown scales which continued as an inconspicuous longitudinal band to tornus; orbicular oval, white, edged with blackish fuscous and with reddish-brown scales in the center, adjacent to the reniform; reniform closed, sharply contrasted against the ground color, whitish, edged with blackish fuscous and with a few reddish-brown and fuscous scales in the center; surrounding the reniform, and extending outwardly along costa, a well defined blackish-fuscous shading; between the reniform and apex a reddish-brown shade; veins narrowly indicated by blackish-fuscous scaling; cilia blackish fuscous mixed with pale ochreous-white scales. Hind wing dark fuscous; cilia ochreous white with a dark-fuscous basal band. Legs blackish fuscous; tarsi of fore leg narrowly annulated with ochreous white; tarsi and spurs of hind leg strongly marked with ochreous white. Abdomen fuscous with a few pale ochreous scales mixed posteriorly.

MALE GENITALIA—Harpe gradually tapering to the narrow, rounded cucullus; ventral margin with no appreciable excavation before cucullus; anal spine absent; clavus narrow, somewhat convex, rounded distally; ampulla stout, broad, extending slightly beyond costa; clasper short, stout, compressed distally. Anellus rounded anteriorly, lateral arm of ventral plate broad, pointed, strongly toothed; dorsal arm broad, convex, strongly sclerotized. Aedeagus short, stout, slightly wider distally than basally; a broad, strongly sclerotized, short, scobinate projection distoventrally; vesica with two stout, thornlike cornuti. Uncus short, weak. Tegumen convex laterally.

FEMALE GENITALIA — Ostium narrow with edges parallel, weakly crenulate. Bursa couplatrix with three elongate, weak signa.

Alar expanse, 23-28 mm.

TYPE—United States National Museum No. 53438.

TYPE LOCALITY—Sperry Chalet, Glacier National Park, Montana (6,500 feet, 9-VIII-32, W. R. Sweadner).

FOOD PLANT—Unknown.

REMARKS—Described from the type male and three female paratypes as follows: One, same date as type; two, Logan Pass, Glacier National Park, Montana (July 10, 1936, H. B. Hoeffler). One paratype in the U. S. National Museum, two in the collection of J. G. Franelement, Ithaca, New York.

The species is named in honor of Mr. H. B. Hoeffler who collected two of the paratypes.

This is the smallest species of the genus and differs from both *ramosula* and *stewarti* by the absence of the light shading from the fore wing except between the basal dash and the costa. The genitalia differ from those of both those species as will be noted in the keys and descriptions.

The drawings were made by Mrs. Eleanor A. Carlin of the Bureau of Entomology and Plant Quarantine.

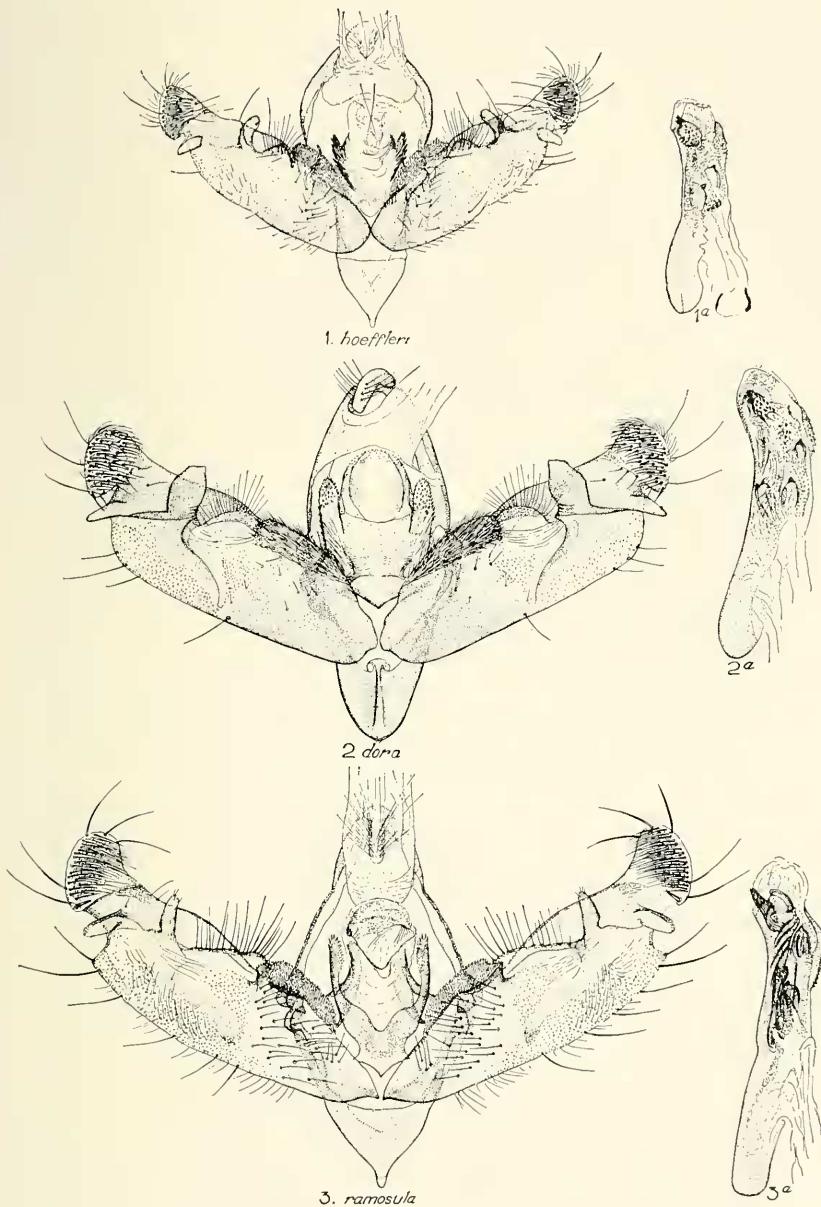


PLATE 3

EXPLANATION OF PLATES

PLATE 3

- 1-1a. *Nedra hoeffleri*, new species. 1, ventral aspect of male genitalia with aedeagus removed; 1a, lateral aspect of aedeagus.
- 2-2a. *Nedra dora*, new species. 2, ventral aspect of male genitalia with aedeagus removed; 2a, lateral view of aedeagus.
- 3-3a. *Nedra ramosula* Guenée). 3, ventral aspect of male genitalia with aedeagus removed; 3a, lateral view of aedeagus.

PLATE 4

4. *Nedra ramosula* (Guenée). Wings.
5. *Nedra ramosula* (Guenée). Lateral view of head.
6. *Nedra stewarti* (Grote). Ventral view of female genitalia.
- 7-7a. *Nedra stewarti* (Grote). 7, ventral aspect of male genitalia with aedeagus removed; 7a, lateral aspect of aedeagus.

PLATE 5

Female genitalia; ventral view.

8. *Nedra ramosula* (Guenée).
9. *Nedra dora*, new species.
10. *Nedra hoeffleri*, new species.

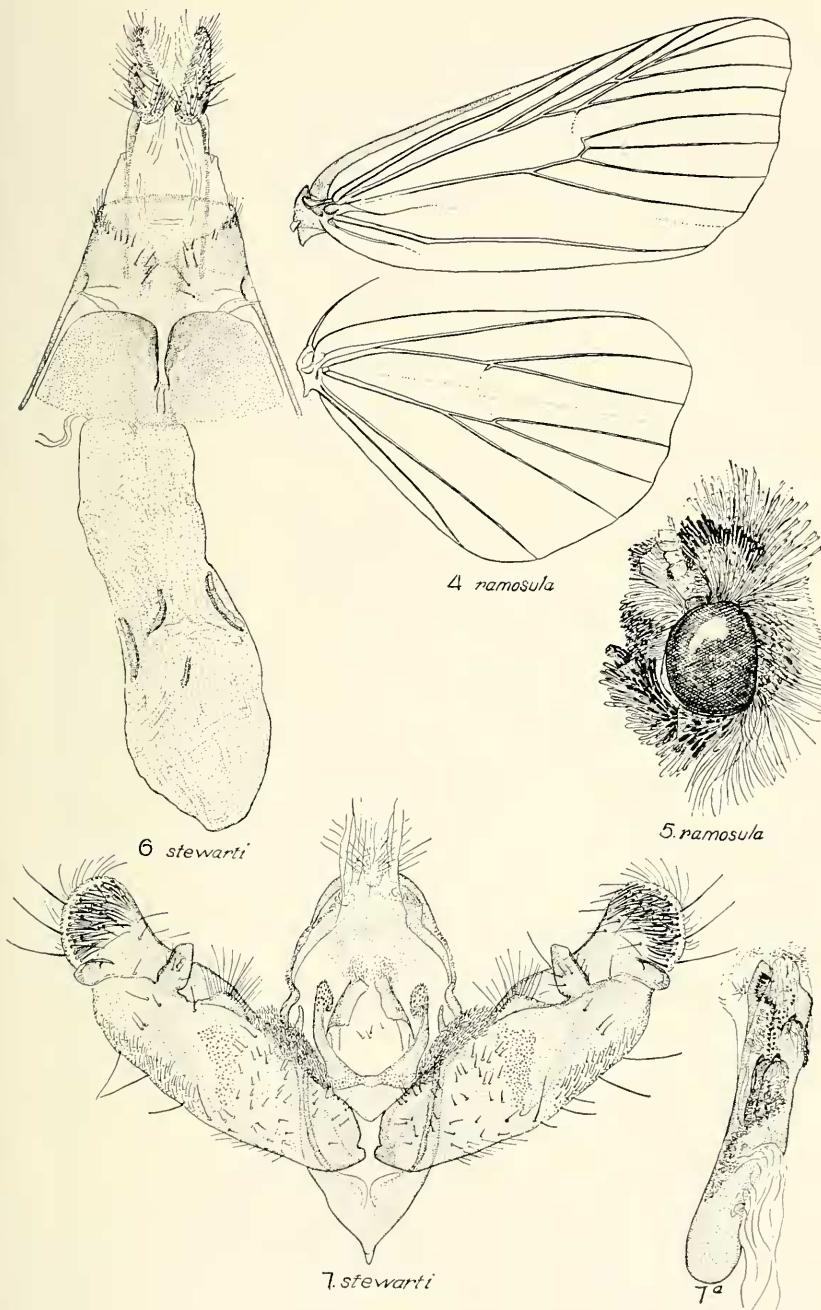


PLATE 4

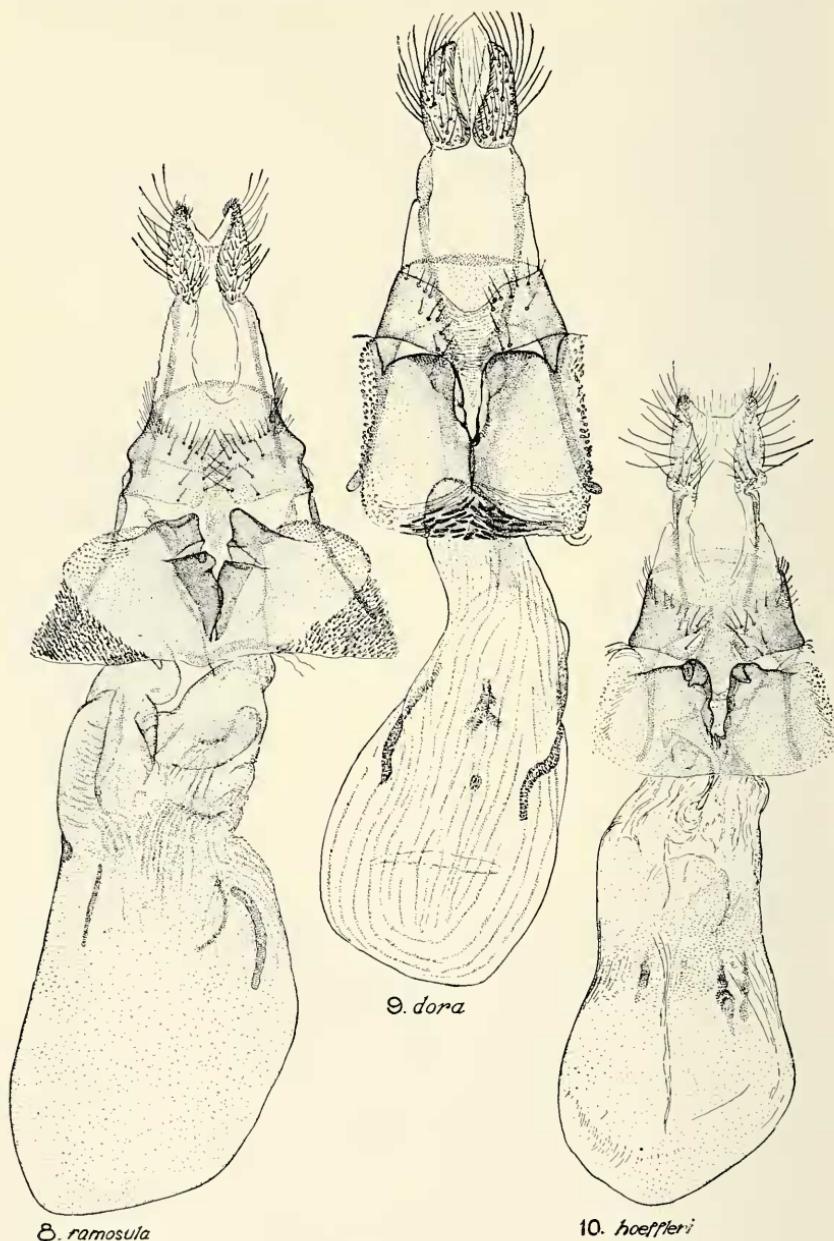


PLATE 5